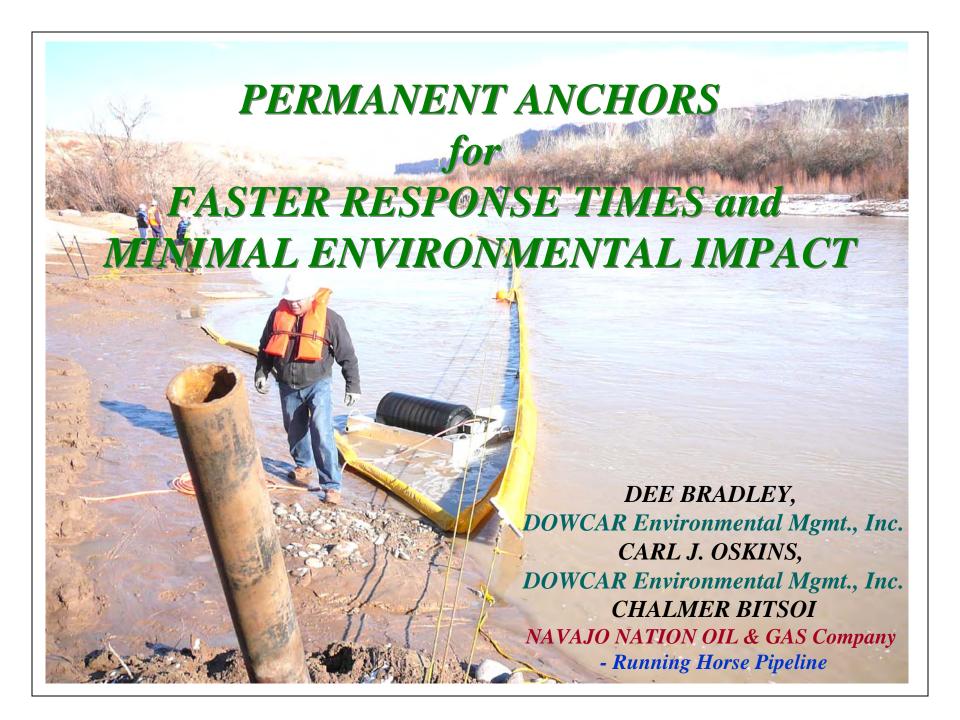
US ERA ARCHIVE DOCUMENT



January, 2007,

NAVAJO NATION OIL and GAS COMPANY - RUNNING HORSE PIPELINE and

DOWCAR Environmental Management, Inc.

CREATED an ENVIRONMENTAL/ENGINEERING PROJECT
to
to DESIGN, DEVELOP and IMPLEMENT a PROGRAM for
of
PRE-SETTING PERMANENT BOOM DEPLOYMENT ANCHORS
from
SHIPROCK, NEW MEXICO
to
MEXICAN HAT, UTAH
on the
SAN JUAN RIVER.

WHY SELECT and POSITION

PERMANENT BOOM DEPLOYMENT ANCHORS on the SAN JUAN RIVER in the FOUR CORNERS AREA of the SOUTHWEST USA?

ANSWER:

PROBLEMS in QUICK RESPONSE to an OIL SPILL INCIDENT:

ONLY <u>1 - 4</u> INITIAL FIRST RESPONDERS

NAVAJO NATION OIL and GAS COMPANY, INC. -RUNNING HORSE PIPELINE SYSTEM - 100+ MILES LONG

WORST CASE SPILL - 19,000+ BARRELS of CRUDE OIL

REMOTE LOCATION - SOUTHWEST U.S. - FOUR CORNERS Area

ENVIRONMENTAL and ARCHEOLOGICAL ISSUES

ISSUES to be ADDRESSED to COMPLETE PROGRAM:

NAVAJO NATION TRIBAL LAND OWNERSHIP

ENVIRONMENT WHERE ANCHORS to be PLACED

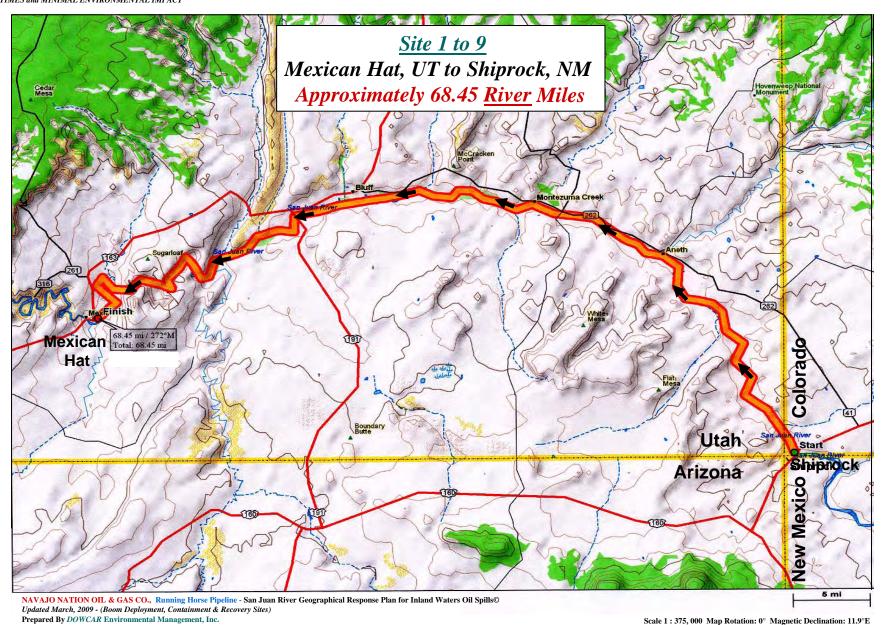
HISTORICAL and ARCHEOLOGICAL ISSUES

LAND USAGE REQUIREMENTS for EACH ANCHOR SITE

PERMISSION to PLACE ANCHORS from:

BUREAU of LAND MANAGEMENT

NAVAJO NATION TRIBAL GOVERNMENT



STEPS in PLACING PERMANENT ANCHORS:

1. DEVELOP a GEOGRAPHICAL OIL SPILL RESPONSE PLAN (GRP)

for the SAN JUAN RIVER

from SHIPROCK, NM to MEXICAN HAT, UT.

2. PRE-DESIGNATE

OIL SPILL BOOM DEPLOYMENT, CONTAINMENT and RECOVERY SITES

in the GEOGRAPHICAL OIL SPILL RESPONSE PLAN

on the SAN JUAN RIVER between these two locations.

NAVAJO NATION OIL & GAS CO., INC.



SAN JUAN RIVER GEOGRAPHICAL RESPONSE PLAN for INLAND OIL SPILLS



BOOM DEPLOYMENT, CONTAINMENT & RECOVERY

SITES 1 - 9

Updated: March, 2009

Copy No.: DOWCAR1

NNOGC - RUNNING HORSE PIPELINE

SAN JUAN RIVER GEOGRAPHICAL RESPONSE PLAN

CONSIST of:

TABLE of CONTENTS

- INTRODUCTION
- RECOMMENDED BOOM DEPLOYMENT SITES
- BOOM DEPLOYMENT SITES and DISTANCE MAPS
- INDIVIDUAL PRE-DESIGNATED BOOM DEPLOYMENT SITES

NNOGC - RUNNING HORSE PIPELINE

SAN JUAN RIVER GEOGRAPHICAL RESPONSE PLAN

PRE-DESIGNATED BOOM DEPLOYMENT SITES CONSIST of:

"NINE"

PRE-DESIGNATED PRIMARY and SECONDARY

BOOM DEPLOYMENT,

CONTAINMENT and RECOVERY SITES

on the SAN JUAN RIVER.

PRE-DESIGNATED BOOM DEPLOYMENT SITES

Site: 1. Mexican Hat Boat Ramp, Mexican Hat, UT

Site: 2. Hwy 191 Bridge Area, Bluff, UT

Site: 3. Sand Island Recreational Area, Bluff, UT

Site: 4. Bluff, South of UT Hwy 163 and County Road 2451

Site: 5. Montezuma Creek Water Tower, Montezuma Creek, UT

Site: 6. Montezuma Creek Bridge, Montezuma Creek, UT

Site: 7. Aneth Community School Area, Aneth, UT

Site: 8. Shiprock Bridge Area - North, US Hwy 64

Site: 9. Shiprock Gaging Station, US Hwy 64

(* Permanent Anchor Sites / ** Under Consideration)

- Primary Site*
 (BLM Land)
- Alternate Site (Navajo Nation Land)
- Primary Site*
 (BLM Land)
- Primary Site*
 (BLM Land)
- Primary Site*
 (Navajo Nation Land)
- Alternate Site (Navajo Nation Land)
- Primary Site* **
 (Navajo Nation Land)
- Primary Site New Site**
 (Navajo Nation Land)
- Alternate Site*
 (Navajo Nation Land)

NNOGC - RUNNING HORSE PIPELINE GEOGRAPHICAL RESPONSE PLAN

EXAMPLE - WHAT is INCLUDED for each PRE-DESIGNATED SITE

SITE 3 - SAND ISLAND RECREATIONAL AREA

- Large Topographical Map Showing Travel Route from NNOGC-RHPL Office.
- Locations of Boom Deployment, Containment and Recovery Site on the San Juan River from the Nearest City on the following maps:
 - Topo Map
 - Aerial Photo Map
 - Close-up Topo Map
 - Close-up Aerial Photo Map

NNOGC - RUNNING HORSE PIPELINE GEOGRAPHICAL RESPONSE PLAN for OIL SPILL RESPONSE

EXAMPLE - WHAT is INCLUDED for each PRE-DESIGNATED SITE (cont.)

<u>SITE 3 - SAND ISLAND RECREATIONAL AREA</u> (cont.)

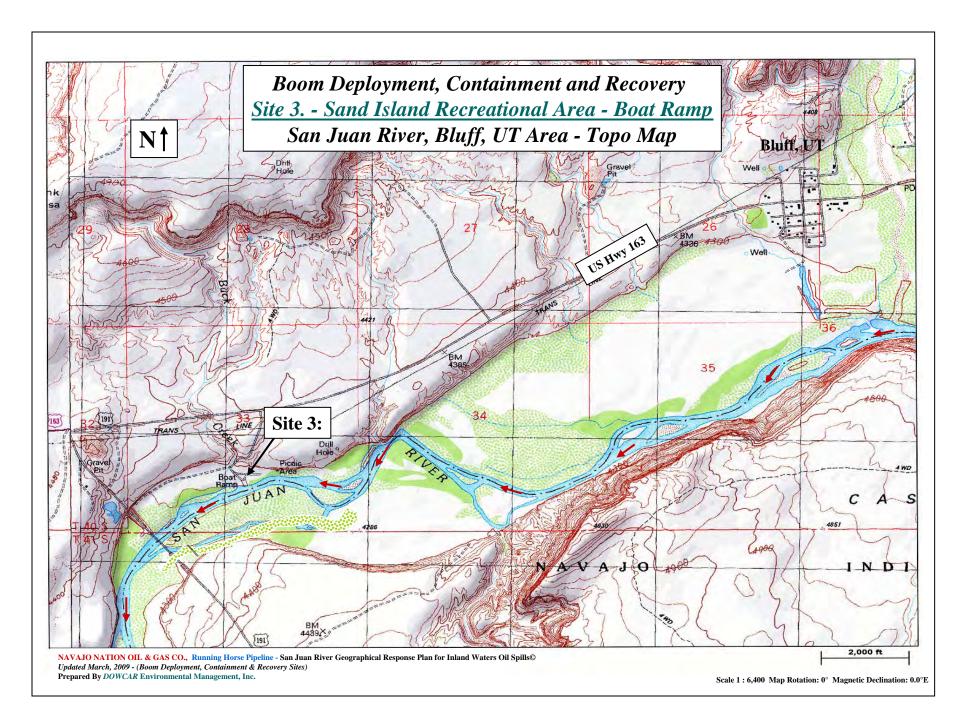
- Detailed Response Strategy Drawing of the Boom Deployment, Containment and Recovery <u>Site 3</u> on the San Juan River Showing the Following:
 - San Juan River Flow Direction
 - Primary Boom Deployment Placement Location
 - Secondary Boom Deployment Placement Location
 - Shoreline Boom Placement Location
 - Boom Anchor Positions on Near and Far Shore River Banks
 - Oil Skimmer Recovery Positions
 - River Width
 - Longitude and Latitude of Boom Deployment Site
 - Distance to NNOGC-RHPL Office from Boom Site

NNOGC - RUNNING HORSE PIPELINE GEOGRAPHICAL RESPONSE PLAN for OIL SPILL RESPONSE

EXAMPLE - WHAT is INCLUDED for each PRE-DESIGNATED SITE (cont.)

<u>SITE 3 - SAND ISLAND RECREATIONAL AREA</u> (cont.)

- Photo of Boom Deployment, Containment and Recovery Site Looking Up River into San Juan River Current.
- Photo of Boom Deployment, Containment and Recovery Site with Overlay of Boom Deployment Response Strategies.
- Photos of Actual Boom Deployment, Containment and Oil Skimmer Recovery on the San Juan River at Pre-designated Site 3.



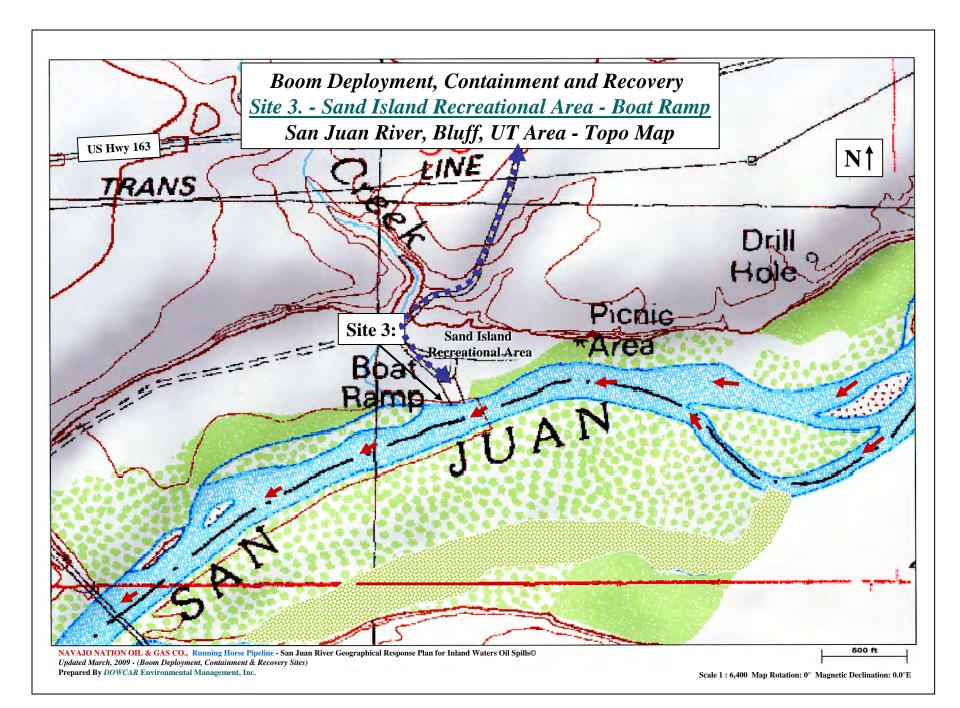
NAVAJO NATION OIL & GAS CO., Running Horse Pipeline - San Juan River Geographical Response Plan for Inland Waters Oil Spills© Updated March, 2009 - (Boom Deployment, Containment & Recovery Sites)
Prepared By DOWCAR Environmental Management, Inc.



Boom Deployment, Containment and Recovery

<u>Site 3. - Sand Island Recreational Area - Boat Ramp</u>

San Juan River, Bluff, UT Area - Aerial Photo





Boom Deployment, Containment and Recovery

<u>Site 3. - Sand Island Recreational Area - Boat Ramp</u>

San Juan River, Bluff, UT Area - Aerial Photo

NAVAJO NATION OIL & GAS CO., Running Horse Pipeline - San Juan River Geographical Response Plan for Inland Waters Oil Spills© Updated March, 2009 - (Boom Deployment, Containment & Recovery Sites) Prepared By DOWCAR Environmental Management, Inc. Oil Spill Containment Boom Not to Scale 4"x 6" (10") w/Top Tension @ 50 - 100 ft. Sections **Shoreline Protection** Sand Island **Boom Deployment** Recreational Area **Primary Cascade** Secondary **Boom Deployment Boom Deployment** San Juan River Flow Site 3: San Juan River Flow **GENERAL LOCATION: Longitudes:** N 37° 15.697' W 109° 36.724' Latitude: **Elevation:** 4,276 ft. 150 - 170 ft. **River Width: Boom Required:** 450 - 650 ft. Distance to RHPL Office: 19.08 miles

Boom Deployment, Containment and Recovery
Site 3. - Sand Island Recreational Area - Boat Ramp
San Juan River, Bluff, UT Area - Response Strategy Drawing

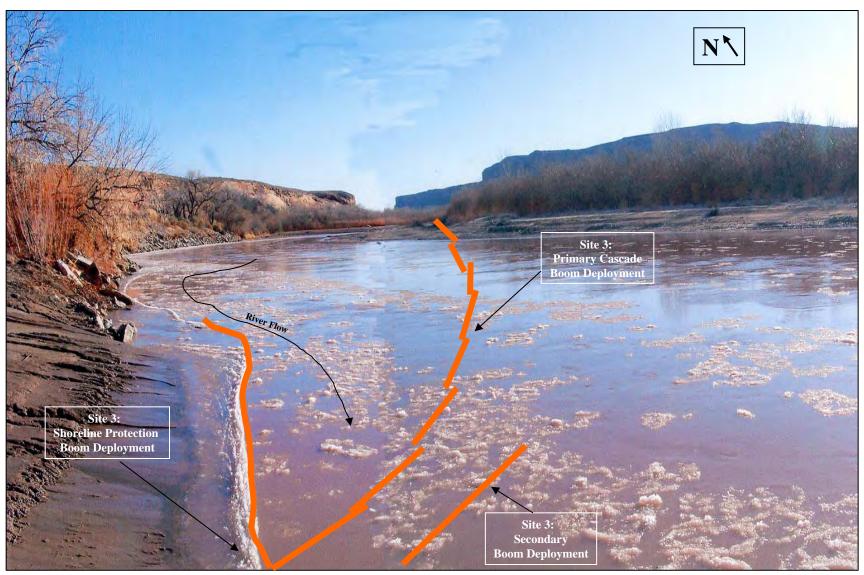
NAVAJO NATION OIL & GAS CO., Running Horse Pipeline - San Juan River Geographical Response Plan for Inland Waters Oil Spills©

Updated March, 2009 - (Boom Deployment, Containment & Recovery Sites)

Prepared By DOWCAR Environmental Management, Inc.



Boom Deployment, Containment and Recovery
<u>Site 3. - Sand Island Recreational Area - Boat Ramp</u>
San Juan River, Bluff, UT Area - Looking Up River Photo



Boom Deployment, Containment and Recovery
<u>Site 3. - Sand Island Recreational Area - Boat Ramp</u>
San Juan River, Bluff, UT Area - Looking Up River Photo

TEST the SITES in the PLAN



Boom Deployment, Containment and Recovery Exercise at Site 3. - Sand Island Recreational Area - Boat Ramp San Juan River, Bluff, UT Area - Looking Up River Photo

STEPS in PLACING PERMANENT ANCHORS: (cont.)

3. TEST EACH PRE-DESIGNATED SITE LISTED in the

GEOGRAPHICAL RESPONSE PLAN (GRP)

to DETERMINE if

the SITE is **VIABLE**.

STEPS IN PLACING PERMANENT ANCHORS: (cont.)

4. CREATE a SITE ASSESSMENT TEAM to SELECT PERMANENT ANCHOR SITES BASED on NNOGC - RUNNING HORSE PIPELINE'S GRP.

ONCE PRE-DESIGNATED SITES ARE <u>VALIDATED</u>,

SITE ASSESSMENT TEAM WILL DETERMINE

<u>VIABILITY</u> and <u>FEASIBILITY</u> of

PLACING PERMANENT BOOM DEPLOYMENT ANCHORS.

SITE ASSESSMENT TEAM is MADE UP of the FOLLOWING:

LAND SURVEYOR

NAVAJO NATION ARCHEOLOGIST

NAVAJO NATION CULTURAL EXPERTS

NNOGC - RUNNING HORSE PIPELINE PERSONNEL

DOWCAR Environmental Management, Inc.
PERSONNEL

STEPS in PLACING PERMANENT ANCHORS: (cont.)

5. CONDUCT a

SITE ASSESSMENT SURVEY

at EACH PRE-DESIGNATED SITE to

DETERMINE FEASIBILITY of

PLACING PERMANENT ANCHORS.

SITE ASSESSMENT SURVEY INCLUDES:

- DETERMINATION of OWNERSHIP of LAND - BLM or Navajo Nation
- CULTURAL, HISTORICAL or ARCHEOLOGICAL ISSUES
 - PORTION of LAND MAPPED to be UTILIZED
- LEGAL MAP for ANCHOR PLACEMENT POSITIONS for EACH SITE
- LOCATION of PERMANENT ANCHORS on BOTH SIDES of SAN JUAN RIVER
 - •TYPE of PERMANENT ANCHOR

SITE ASESSMENT SURVEY INCLUDES: (cont.)

- CONTENTS of PRESENTATION to NAVAJO NATION CHAPTER COUNCILS
- APPROVALS from DEPARTMENT of INTERIOR BUREAU of LAND MANAGEMENT
 - PERMANENT ANCHOR LOCATIONS
 - EACH PERMANENT ANCHOR SITE to HAVE
 - <u>1 to 2</u> Near Shore Anchors
 - 2 to 3 Far Shore Anchors

STEPS in PLACING PERMANENT ANCHORS: (cont.)

6. OBTAIN PERMISSION to PLACE
PERMANENT BOOM DEPLOYMENT ANCHORS
on the SAN JUAN RIVER from

SHIPROCK, New Mexico to MEXICAN HAT, Utah

with the

BUREAU of LAND MANAGEMENT

and

NAVAJO NATION TRIBAL GOVERNMENTAL AUTHORITIES.

OBTAINING APPROVALS

from

The Bureau of Land Management

to Place Permanent Boom Deployment Anchors on the San Juan River

Includes the Following:

- Correspond with the BLM Realty Specialist
 - Provide Short Description of BLM Land Usage
 - Explain Why NNOGC-RHPL has to have an FRP
 - Explain PREP Equipment (Boom) Deployment Exercises
 - Explain Emergency Response on the San Juan River.
 - Explain Why NNOGC-RHPL Needs Permanent Boom Deployment Anchors on the San Juan River.

OBTAINING APPROVALS

from <u>The Bureau of Land Management</u> to Place Permanent Boom Deployment Anchors on the San Juan River

Includes the Following: (cont.)

- Provide Legal Map of Anchor Placement at Boom Deployment Sites
 - Mexican Hat Boat Ramp, Mexican Hat, UT
 - Bluff, South of UT Hwy 163 and CR 2451, Bluff, UT
 - Sand Island Recreational Area, Bluff, UT

OBTAINING APPROVALS

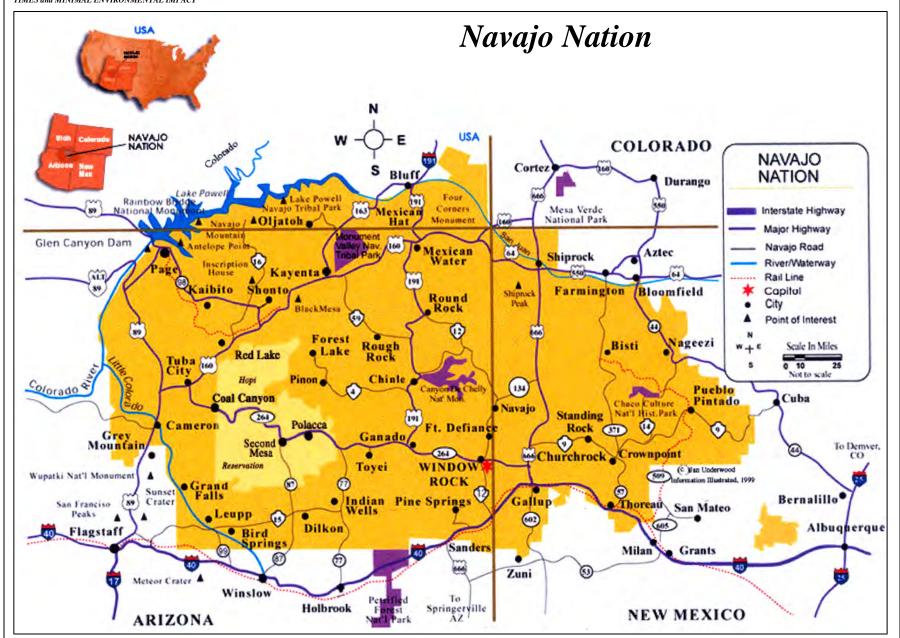
from <u>The Bureau of Land Management</u> to Place Permanent Boom Deployment Anchors on the San Juan River

Includes the Following: (cont.)

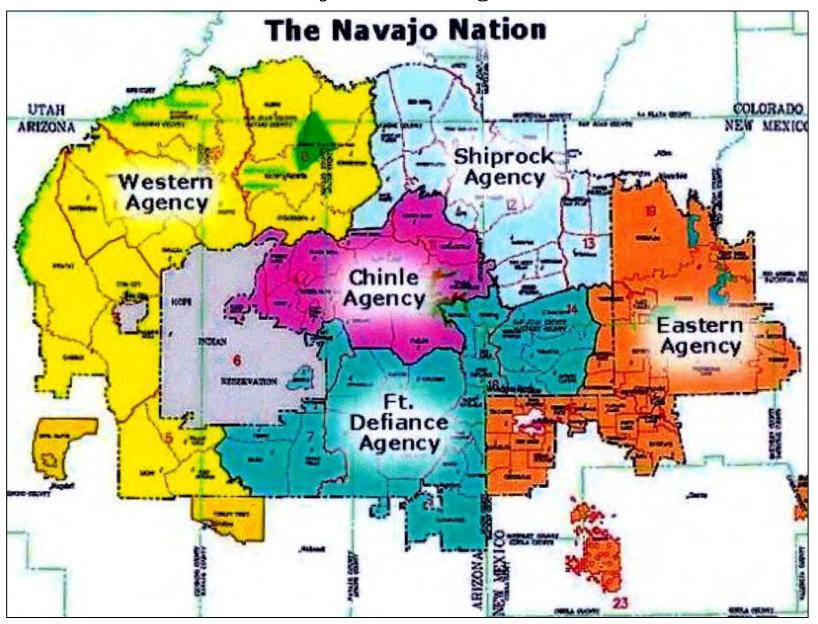
- BLM Visits Each Boom Deployment Site
- BLM Provides Environmental Assessment
- BLM Drafts Right to Use Permit for Each Site
- NNOGC-RHPL Pays BLM Permitting Fee
- BLM Issues Permit to Place Permanent Anchors

BRIEF OUTLINE of NAVAJO NATION TRIBAL GOVERNMENT

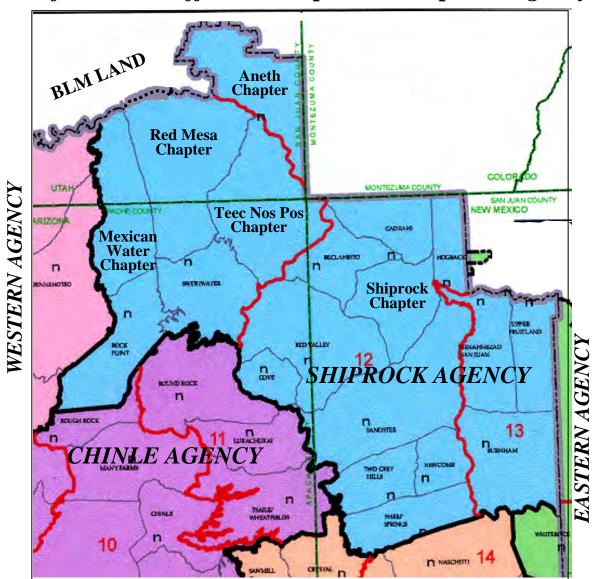
- Navajo Nation has 3 Branches of Government
 - <u>Executive</u> (President, Vice President, Divisions (10) and 12 Standing Committees)
 - <u>Legislative</u> (Navajo Nation Council) and
 - <u>Judicial</u> (Court System and Law Enforcement)
- Navajo Nation is Divided into "5" Agencies
- Within the <u>5 Agencies</u> there are <u>110 Chapters</u> Which Elect 88 Delegates for a 4 Year Term to the Navajo Nation Council
- Each Chapter Government has a President, Vice President, Secretary and Chapter Members
- The Navajo Nation Council Meets 4 Times per Year



5 Navajo Nation Agencies



Navajo Nation Affected Chapters in Shiprock Agency



from <u>The NAVAJO NATION TRIBAL GOVERNMENT</u> to Place Permanent Boom Deployment Anchors on the San Juan River

Includes the Following:

• Write a <u>Supporting Resolution</u> and ask Permission to Place Permanent Boom Deployment Anchors on Navajo Nation Tribal Lands.

- Resolution had to be Approved by the Following Affected Chapters:
 - Mexican Water
 - Shiprock
 - Red Mesa
 - Aneth
 - Teec Nos Pos

from <u>The NAVAJO NATION TRIBAL GOVERNMENT</u> to Place Permanent Boom Deployment Anchors on the San Juan River

- Each Chapter had Initial Issues with NNOGC RHPL
 - NNOGC-RHPL Attended Numerous Chapter Meetings
 - Negotiated with Chapter Members on Community Support for Permanent Anchor Project
 - NNOGC-RHPL Assured and Pledged to Chapter Members that the Company Would be an Excellent Environmental Citizen

from

The NAVAJO NATION TRIBAL GOVERNMENT

to Place Permanent Boom Deployment Anchors on the San Juan River

Includes the Following: (cont.)

• Provide the Following to Each Affected Chapter Site:

<u>Legal Map</u> of Each Permanent Anchor Site

Environmental Assessment for Each Location

Archeological Survey for Each Location

• Obtain Permission to Place Permanent Boom Deployment Anchors on San Juan River from Each Affected Chapter by Means of "Chapter Resolution"

from <u>The NAVAJO NATION TRIBAL GOVERNMENT</u> to Place Permanent Boom Deployment Anchors on the San Juan River

- Once the Chapter Resolutions are Completed,
- NNOGC-RHPL Submits a "Right of Way" Proposal Package to the Navajo Nation Land Department for Approval.
- "Right of Way" Proposal Package Includes the Following for each site:
 - A Legal Map
 - Environmental Assessments
 - Archeological Survey
 - The Approved Chapter Resolutions

from <u>The NAVAJO NATION TRIBAL GOVERNMENT</u> to Place Permanent Boom Deployment Anchors on the San Juan River

Includes the Following: (cont.)

• Upon Approval, the Navajo Nation Land Department Submits

the "Right of Way" Proposal Package

to Various Navajo Nation Entities for Review and Approval:

- Navajo Nation Division of Natural Resouces
 - BIA Agency Realty Office
- Navajo Land Division "Right-of-Way" Specialist

from

The NAVAJO NATION TRIBAL GOVERNMENT

to Place Permanent Boom Deployment Anchors on the San Juan River

- Upon Approval from the Navajo Nation Governmental Entities and the BIA, the "Right-of-Way" Proposal Package is submitted to the <u>Chair Person</u> of the Resource Committee of the Navajo Nation Division of Natural Resources.
- Once the ROW Project for Permanent Anchors on Navajo Nation Tribal Lands is <u>Approved</u> by the Navajo Nation Council, the Resource Committee <u>Approves</u> the ROW Project.
 - ROW Project Package is Submitted to the Navajo Nation President for Approval and is Approved.
 - The ROW Project Package is Submitted to the BIA Agency Realty Office for Final Review and Approval.
 - The Permanent Boom Deployment Anchor Project is <u>APPROVED.</u>

from

The NAVAJO NATION TRIBAL GOVERNMENT to Place Permanent Boom Deployment Anchors on the San Juan River

- ROW Permit is Issued to <u>NNOGC-RHPL</u> to Position Permanent Boom Deployment Anchors on the San Juan River at the following Pre-designated Sites:
 - Site 1. Mexican Hat Boat Ramp
 - Site 3. Sand Island Recreational Area
 - Site 4. Bluff, Intersection of UT Hwy 163 and CR 2451
 - Site 5. Montezuma Creek Water Tower
 - Site 7. Aneth Community School
 - Site 9 Shiprock Gaging Station

COST to COMPLETE PERMANENT BOOM DEPLOYMENT ANCHORS on the SAN JUAN RIVER

NNOGC-RHPL \$ 5,000.00

DOWCAR 5,000.00

BLM Permitting Fee 1,600.00

Land Surveyor 1,500.00

Environmental Assessments 14,000.00

Archeological Survey 7,500.00

Navajo Nation ROW Fee 20,000.00

<u>TOTAL COST</u>: \$57,600.00



Placement of Permanent Anchors
Site 1. - Mexican Hat Boat Ramp Area on the San Juan River
Looking Up River to Permanent Anchors Designed to Blend into Landscape Environment



Placement of Permanent Anchors
Site 1. - Mexican Hat Boat Ramp Area on the San Juan River
Looking Up River to Far Shore Permanent Boom Deployment Anchor Points



Placement of Permanent Anchors
Site 1. - Mexican Hat Boat Ramp Area on the San Juan River
Looking Up River to Far Shore Permanent Boom Deployment Anchor

PERMANENT ANCHORS for FASTER RESPONSE TIMES and MINIMAL ENVIRONMENTAL IMPACT



Placement of Permanent Anchors
Site 1. - Mexican Hat Boat Ramp Area on the San Juan River
Looking Down River to Permanent Boom Deployment Anchor Containment and Recovery Point



Placement of Permanent Anchors
Site 3. - Sand Island Recreation Area on the San Juan River
Looking Up River to Permanent Boom Deployment Anchors Location on Far Shore



Placement of Permanent Anchors
Site 3. - Sand Island Recreation Area on the San Juan River
Looking Up River to Permanent Boom Deployment Anchors Location on Far Shore



PREP Annual Equipment Deployment Exercise Utilizing Permanent Boom Deployment Anchors
Site 3. - Sand Island Recreation Area
Up River Far Side Permanent Boom Deployment Anchors



PREP Annual Equipment Deployment Exercise Utilizing Permanent Boom Deployment Anchors
Site 3. - Sand Island Recreation Area
Looking Up River

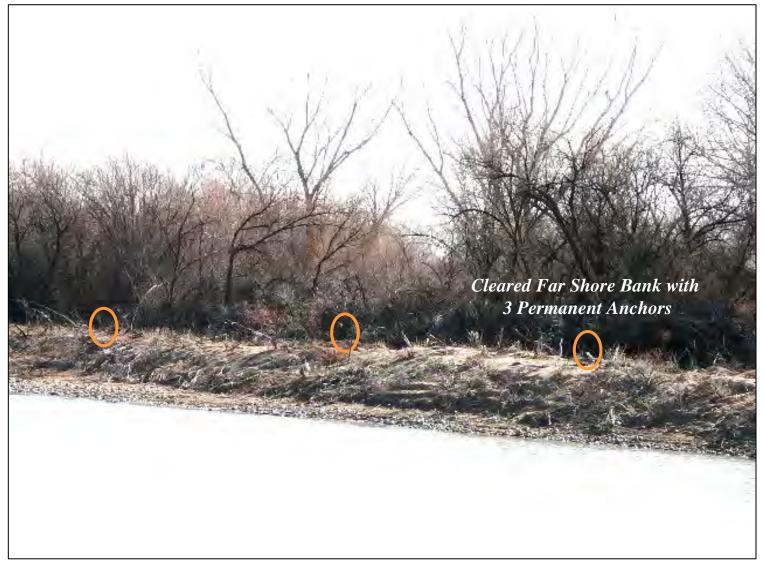


PREP Annual Equipment Deployment Exercise Utilizing Permanent Anchors Site 3. - Sand Island Recreation Area Looking Up River with Boom and Oleophilic Drum Skimmer Deployed



Placement of Permanent Anchors
Site 4. - Bluff, South of UT 163 at CR 2451Area on the San Juan River Looking Up River
Looking Up River from Near Shore Containment and Recovery Anchor Points

PERMANENT ANCHORS for FASTER RESPONSE TIMES and MINIMAL ENVIRONMENTAL IMPACT



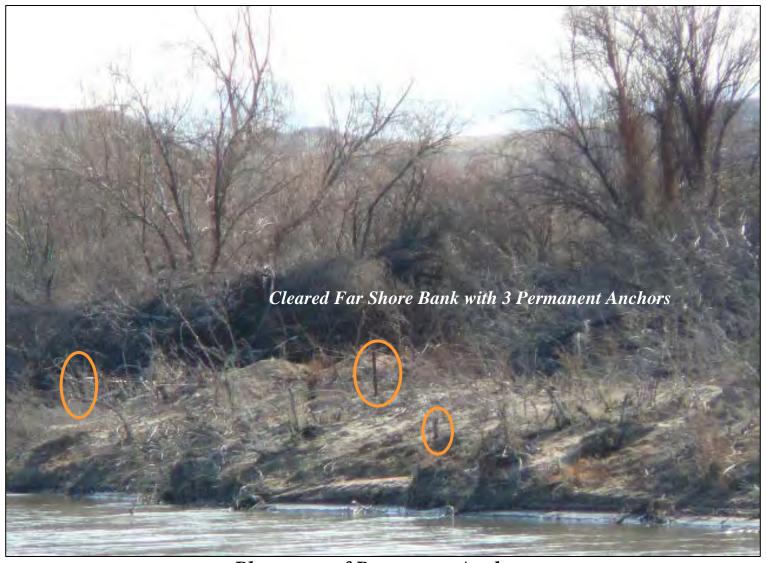
Placement of Permanent Anchors
Site 4. - Bluff, South of UT 163 at CR 2451Area on the San Juan River Looking Up River
Looking Up River from Near Shore Containment and Recovery Anchor Points



Placement of Permanent Anchors
Site 5. - Montezuma Creek Water Tower Area on the San Juan River
Looking Up River from Near Shore Containment and Recovery Anchor Points



Placement of Permanent Anchors
Site 5. - Montezuma Creek Water Tower Area on the San Juan River
Looking Up River to Far Shore Permanent Anchor Points - River Bank Cleared



Placement of Permanent Anchors
Site 5. - Montezuma Creek Water Tower Area on the San Juan River
Looking Up River to Far Shore Permanent Anchor Points - River Bank Cleared



PREP Annual Equipment Deployment Exercise
Site 7. - Aneth Community School Area on the San Juan River
Testing of Predesignated Boom Deployment Site for Permanent Boom Deployment Anchors



PREP Annual Equipment Deployment Exercise
Site 8. - Shiprock Bridge Area, North on the San Juan River
Testing of Predesignated Boom Deployment Site for Permanent Boom Deployment Anchors

PERMANENT BOOM DEPLOYMENT ANCHORS CAN be FOUND in the FOLLOWING RIVERS:

Weber River - Coalville, Utah

Marias River - Shelby, Montana

Missouri River - Great Falls, Montana

North Platte River - Casper and Torrington, Wyoming

Nonconnah Creek - Memphis, Tennessee



Permanent Boom Deployment Anchors Weber River - Coalville, UT Area



Permanent Boom Deployment Anchors Weber River - Coalville, UT Area



Using Permanent Anchors Marias River - Shelby, Montana



Using Permanent Anchors on the Marias River - Near Shore Containment and Recovery Point in the Shelby, Montana Area



Using Permanent Anchors on the Marias River - Looking Up River to Far Shore Anchor Boom Tie Down Points in the Shelby, Montana Area



Using Permanent Anchors on the Missouri River - Looking Up River to Buoy Anchor Points in the Great Falls, Montana Area



Using Permanent Anchors on the Missouri River - 600 lb. Containment and Recovery Point in the Great Falls, Montana Area



Using Permanent Anchors on the Missouri River - 600 lb. Containment and Recovery Point Near Giant Springs in the Great Falls, Montana Area



Using Permanent Anchors on the North Platte River - Looking Up River to Far Shore Boom Anchor Tie Down Points in the Torrington, Wyoming Area



Using Permanent Anchors on the North Platte River - Looking Up River to Far Shore Boom Anchor Tie Down Points in the Casper, Wyoming Area



Using Permanent Anchors on the Nonconnah Creek - Looking Up to Far Shore Boom Anchor Tie Down Points in the Memphis, Tennessee Area



Using Permanent Buoy Anchors on the Colorado - Looking Up River to Buoy Anchor Tie Down Points in the Lee's Ferry, Glen Canyon National Recreational Area, Arizona

BENEFITS of PERMANENT ANCHORS:

- QUICKER RESPONSE TIMES.
- LESS MANPOWER NEEDED.

Five Out of Six Permanent Boom Deployment Anchor Sites on the San Juan River from Mexican Hat, UT to Shiprock, NM are Completed.

REMAINDER SCHEDULED for 2009



PREP Annual Equipment Deployment Exercise Utilizing Permanent Boom
Deployment Anchors
Site 3. - Sand Island Recreation Area



PERMANENT BOOM DEPLOYMENT ANCHORS CAN HELP PREVENT THIS